Science GE DOK Alignment Chart **EARTH/SPACE SCIENCE** **Grades 5-6** **GE 44-46**

DOK & NECAP Release Item Codes	GE Statement with Ceiling DOK	Science Concepts	Examples/Practice Items
Enduring Knowledge: The universe, earth and all earth systems have undergone change in the past, continue to change in the present and are predicted to continue changing in the future.			
DOK 2 ESS2(5-8) MAS-6	**S5-6:44** **(DOK 2)** **Students demonstrate their understanding of Characteristics of the Solar System by…** • Creating a diagram or model and explaining the effects of the **orbit** of the earth around the sun AND the moon around the earth.	Science Concepts: a. The earth **orbits** the sun in a near circular path that takes a year to complete. b. The moon's **orbit** around the earth, once in about 28 days, changes the portion of the moon visible to us as a result of the sun's reflected light (**phases of the moon**).	
DOK 2 ESS2(5-8) MAS-6 **DOK 3** ESS2(5-8) NOS-7	**S5-6:45** **(DOK 3)** **Students demonstrate their understanding of Processes and Change over Time within Systems of the Universe by…** • Explaining, after viewing a picture or illustration with sun/moon showing true relative size, why the sun and moon appear to be the same size when seen from the earth. **AND** • Relating this phenomenon to lunar and solar **eclipses** and explaining how technology has allowed scientists to extend existing ideas about the solar system.	Science Concepts: a. From earth, the moon and the sun appear to be the same size because the moon is so much closer to the earth than the sun. b. Telescopes magnify the appearance of some very distant objects in the sky, including the moon and the planets. The number of stars that can be seen through telescopes is dramatically greater than can be seen by the unaided eye.	
DOK 3 ESS1(5-8) POC-3 ESS1(5-8) INC + POC-5 **3**	**S5-6:46** **(DOK 3)** **Students demonstrate their understanding of Processes and Change over Time within Earth Systems by…** • Using data about a rock's physical characteristics to explain the rock's history and connection to the **Rock Cycle**. **AND** • Creating a model of the earth's structure and explaining the nature of the layers.	Science Concepts: a. Rocks come from magma or lava, as well as from sediments that build up in layers. As all rocks from earth's surface weather, form sediments and become buried and heated (through pressure or direct heat), they may crystallize into new rock. Eventually those new rocks may be brought to the surface by forces that drive plate motions (The **Rock Cycle**). b. The earth is layered with a rigid shell, a hot mantle and a dense metallic core.	

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DOK 1 ESS1(5-8) POC-3 **DOK 3** ESS1(5-8) INQ + POC-1 **DOK 2** ESS1(5-8) POC-3 **DOK 3**	**S5-6:47** **(DOK 3)** **Students demonstrate their understanding of Processes and Change over Time within Earth Systems by…** • Identifying examples of geologic changes on the earth's surface, where possible, in the local environment (include slow and fast changes). **AND** • Plotting locations of **volcanoes** and **earthquakes** and using these data to explain the relationship between location and **plate movement.** **AND** • Explaining the processes that occur when rocks are changed from one form to another. **AND** • Determining the relative age of **fossils** within **sedimentary rocks** from their location in the strata (i.e. which fossils within a sequence are older).	Science Concepts: a. Some changes on the earth can be very slow, such as weathering and mountain-building, and some can be very fast—such as **volcanoes and earthquakes**. b. Earth's rigid shell is composed of large plates that move at rates of centimeters a year. Major geologic events, such as earthquakes, volcanic eruptions and mountain building, result from these plate motions. c. Thousands of layers of sedimentary rock confirm the long history of the changing surface of the earth and the changing life forms whose remains are found in successive layers (land forms—coastlines, mountains, rivers, canyons, deltas).	
DOK 2 ESS1(5-8) SAE-2 ESS1(5-8)SAE + POC-4	**S5-6:48** **(DOK 2)** **Students demonstrate their understanding of Processes and Change over Time within Earth Systems by…** • Diagramming, labeling and explaining the process of the **water cycle** (e.g., **evaporation, precipitation, run-off**).	Science Concepts: a. The cycling of water in and out of the atmosphere plays an important role in determining climatic patterns. Water **evaporates** from the surface of the earth, rises and cools, and falls again to the surface as rain. The water falling on land collects in rivers and lakes, soil and porous layers of rock, and much of it flows back into the ocean.	

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DOK 2 DOK 2 LS2(5-8) INQ + SAE-5	**S5-6:49** (DOK 2) **Students demonstrate their understanding of Processes and Change within Natural Resources by…** • Identifying examples of good and poor **management** of **natural resources**. **AND** • Explaining how overpopulation of living things can degrade an environment due to increased use of resources.	Science Concepts: a. Responsible **management** of the earth's resources (air, soil, water, trees) is beneficial for the environment and for human use.	